

IN THE CLAIMS

1. **(Currently Amended)** An ATM cell service apparatus which accommodates an ATM cell in an optical synchronous communications network through an N.A. (North America) asynchronous communications network, comprising:

an optical synchronous communications network signal terminating unit terminating a signal in an optical synchronous communications network;

an N.A. asynchronous communications network signal terminating unit terminating a signal in an N.A. asynchronous communications network;

~~an~~ first and second ATM cell extraction ~~unit~~ units respectively extracting an ATM cell from a signal of the optical synchronous communications network ~~or~~ and a signal of the N.A. asynchronous communications network;

~~an~~ first and second ATM cell mapping ~~unit~~ units respectively mapping ~~an~~ ATM cell cells respectively extracted by said first and second ATM cell extraction ~~unit~~ units in ~~a signal~~ signals of the N.A. asynchronous communications network ~~or~~ and the optical synchronous communications network respectively; and

a first and second signal transmission ~~unit~~ units respectively transmitting a signal of the N.A. asynchronous communications network in which the ATM cell is mapped, ~~or~~ and a signal of the optical synchronous communications network in which the ATM cell is mapped.

2. **(Currently Amended)** The apparatus according to claim 1, further comprising:

an optical synchronous communications network interface unit connecting a signal for an optical synchronous communications network to an optical synchronous communications network; and

an ATM network interface unit ~~directly~~ connecting a signal for an optical synchronous communications network to an ATM network: without intervening signal processing units.

3. **(Original)** The apparatus according to claim 2, further comprising

at least said optical synchronous communications network signal terminating unit commonly to said optical synchronous communications network interface unit and an ATM network interface unit so that an amount of hardware of said ATM cell service apparatus can be reduced.

4. **(Currently Amended)** The apparatus according to claim 1, wherein

~~said ATM cell extraction unit comprises:~~

a ~~first~~ said extracting second unit ~~extracting~~ extracts an ATM cell from a signal obtained by directly mapping an ATM cell in an N.A. asynchronous communications network signal; and

a ~~second~~ said first extracting unit ~~extracting~~ extracts an ATM cell from a signal obtained by mapping an ATM cell in a predetermined format in the N.A. asynchronous communications network signal, wherein

an amount of hardware can be reduced by sharing a part of the hardware of said first and second extraction units.

5. **(Currently Amended)** The apparatus according to claim 4, wherein

said predetermined format is a PLCP- (Physical Layer Convergence Protocol).

6. **(Currently Amended)** The apparatus according to claim 1, wherein

when an ATM cell input from an optical synchronous communications network or an N.A. asynchronous communications network is faulty, said first or second signal transmission unit, respectively, generates an ATM cell exclusively informing that a fault has occurred, and transmits the generated ATM cell.

7. **(Currently Amended)** A method of providing an ATM cell service in which an ATM cell is accommodated in an optical synchronous communications network through an N.A. (North America) asynchronous communications network, comprising:

- (a) terminating a signal in an optical synchronous communications network;
- (b) terminating a signal in an N.A. asynchronous communications network;
- (c) extracting an ATM cell from one of a signal of the optical synchronous communications network ~~or~~ and a signal of the N.A. asynchronous communications network;
- (d) mapping an the ATM cell extracted in step (c) in a signal of the other of N.A. asynchronous communications network ~~or~~ and the optical synchronous communications network; and
- (e) transmitting a the signal ~~of the N.A. asynchronous communications network in which the ATM cell is mapped, or a signal of the optical synchronous communications network in which the ATM cell is mapped.~~

8. **(Currently Amended)** The method according to claim 7, further comprising:

- (f) connecting a signal for an optical synchronous communications network to an optical synchronous communications network; and

(g) ~~directly~~ connecting a signal for an optical synchronous communications network to an ATM network: without intervening signal processing units.

9. **(Original)** The method according to claim 7, wherein
said step (c) comprises:

(h) extracting an ATM cell from a signal obtained by directly mapping an ATM cell in an N.A. asynchronous communications network signal; and

(i) extracting an ATM cell from a signal obtained by mapping an ATM cell in a predetermined format in the N.A. asynchronous communications network signal.

10. **(Currently Amended)** The method according to claim 7, wherein

when an ATM cell input from one of an optical synchronous communications network ~~or~~ and an N.A. asynchronous communications network is faulty, an ATM cell exclusively informing that a fault has occurred, is generated, and the generated ATM cell is transmitted in said step (e).

11. **(Currently Amended)** An ATM cell service apparatus which accommodates an ATM cell for synchronous and asynchronous communications networks, comprising:

a detection unit detecting an out of frame state, a loss of a signal, or a signal fault; and

a cell insertion unit mapping one of an ~~IDLE~~ idle cell ~~or and~~ an ~~Unassigned~~ unassigned cell in a synchronous frame upon receipt of a detection result from said detection unit.